

Claims

5 1. Iron-chromium-aluminium alloy having good oxidation resistance, with (in % by weight) 2.5 to 5.0% Al, 10 to 25 % Cr and 0.05 - 0.8% Si as well as additions of >0.01 to 0.1 % Y and/or > 0.01 to 0.1 % Hf and/or > 0.01 to 0.2 % Zr and/or > 0.01 to 0.2 % Cerium mischmetal (Ce, La, Nd) as well as production-associated impurities.

10 2. The alloy in accordance with Claim 1, with (in % by weight) 2.5 to < 5 % Al and 13 to 21% Cr as well as additions of > 0.01 to 0.1% Y and > 0.01 to 0.1 % Hf.

15 3. The alloy in accordance with Claim 1, with (in % by weight) 2.5 to < 5 % Al and 13 to 21% Cr as well as additions of >0.01 to 0.1 % Y and > 0.01 to 0.1% Hf and > 0.01 to 0.2 % Zr.

20 4. The alloy in accordance with Claim 1 with (in % by weight) 2.5 to 5 % Al and 13 to 21 % Cr as well as additions of > 0.01 to 0.2 % Cerium mischmetal (Ce, La, Nd).

25 5. The alloy in accordance with Claim 1, with (in % by weight) 2.5 to 5 % Al and 13 to 21 % Cr as well as additions of > 0.01 to 0.2 % Zr and > 0.01 to 0.2 % Cerium mischmetal (Ce, La, Nd).

30 6. The alloy in accordance with any one of Claims 1 to 5 with (in % by weight) max. 0.06 % C, max. 0.6 % Si, max. 0.6 % Mn, max. 0.04 % P, max. 0.01 % S, max. 0.02 % N, max. 0.1 % Ti and in total max. 0.5 % Nb, Mo, Cu and/or W.

7. The alloy in accordance with any one of Claims 1 to 6, characterised in that one or more of the elements Y, Hf, Zr, Cerium mischmetal (Ce, La,

Nd) is substituted in part or in full by one or more of the elements Sc, Ti, Nd, Ta, V and/or one or more of the elements of the rare earth metals.

- 8 . The alloy in accordance with any one of Claims 1 to 7, characterised in that (in % by weight) the Cr content is between 14 and 19 % and the Al content between 2.5 and 4.5 %, wherein the total content (in % by weight) of at least one of the elements Y, Hf, Zr, Cerium mischmetal (Ce, La, Nd), Sc, Ti, Nb, Ta, V and rare earth metals does not exceed 0.6%.
- 10 9 . The alloy in accordance with any one of Claims 1 to 8, characterised in that (in % by weight) the Cr content is between > 17.5 and < 19 % and the Al content between > 3 and < 4%.
- 10 10 . The alloy in accordance with any one of Claims 1 to 9, characterised in that (in % by weight) the Y content is between > 0.02 and < 0.08 % and the Hf content between > 0.02 and < 0.06 %.
- 11 11 . The alloy in accordance with any one of Claims 1 to 10, characterised in that components fabricated from the alloy after annealing at 1100°C during 400 h at a metal thickness of 50 μ show a linear deformation of < 4 %.
- 12 12 . A method for the fabrication of semi-finished articles from the alloy in accordance with any one of claims 1 to 11, characterised in that the semi-finished articles following melting of the alloy are produced by way of ingot casting, continuous casting or strip casting as well as hot and cold deformation and including (an) intermediate annealing process(es) as required.
- 13 13 . A use of an alloy in accordance with any one of Claims 1 to 11 for a component in Diesel vehicles and two-stroke devices, in particular in Diesel and two-stroke engines.

- 14 . The use in accordance with Claim 13, characterised in that the alloy is employable as substrate foil in metallic catalytic exhaust converters.
- 5 15 . The use in accordance with Claim 13 as a component of exhaust cleaning systems where the substrate is made of wire.
- 16 . The use in accordance with Claim 13 as a component in Diesel engine glow cells.
- 10 17 . The use in accordance with Claim 13 as spraying wire for surface coatings of components employed in exhaust systems of Diesel or two-stroke engines.
- 15 18 . The use in accordance with Claim 13 as heating conductors or resistance materials for electrical preheating of exhaust cleaning systems of Diesel or two-stroke engines.
- 19 . The use of an alloy in accordance with any one of Claims 1 to 11 as a component in exhaust cleaning systems of fuel cells.